

CLAIMS

1. A reporting and maintenance system for remotely monitoring or controlling devices in an enterprise, the devices communicating in at least one enterprise management protocol, said reporting and maintenance system comprising:

a server group including at least one server, said server group including network hardware;

at least one non-volatile memory device incorporated to said server group;

an enterprise including at least one enterprise device, said enterprise being connected to said server group through said network hardware;

a central information system connected to said server group through said network hardware, said central information system including facilities for the display of the state of said enterprise devices to administrators;

at least one notification device operable by said central information system whereby administrators may be interruptedly alerted to the state of said enterprise devices;

a receiver incorporated with said server group, said receiver receiving first messages from said enterprise devices in at least one enterprise management protocol, said first messages containing status information of the sending enterprise devices;

a forwarder incorporated with said server group, said forwarder forwarding the information contained in the first messages to said central information system;

and a filter incorporated with said server group, said filter filtering the first messages such that the forwarder is prevented from forwarding of some of the first messages.

2. The system of claim 1, further comprising:

an assigner incorporated with said server group, said server assigning priority to the information in said first messages;

and said forwarder forwards the information contained in the first messages in preferential order by

the assigned priority.

3. The system of claim 1, further comprising:

a translator incorporated with said server group, said translator translating the first received messages to a second protocol used by said forwarder.

4. The system of claim 1, wherein said server network hardware provides encrypted communication between said server group and the central information system.

5. A reporting and maintenance system for remotely monitoring or controlling devices in an enterprise, comprising:

a server group including at least one server, said server group including network hardware;

at least one non-volatile memory device incorporated to said server group;

an enterprise including at least one enterprise device, said enterprise being connected to said server group through said network hardware;

an enterprise management system connected to said server group through said network hardware, said enterprise management system including display facilities for the display of the state of said enterprise devices to administrators;

a receiver incorporated with said server group, said receiver receiving first messages from said enterprise devices in at least one enterprise management protocol, said first messages containing status information of the sending enterprise devices;

a forwarder incorporated with said server group, said forwarder forwarding the information contained in the first messages to said enterprise management system;

and a filter incorporated with said server group, said filter filtering the first messages such that the forwarder is prevented from forwarding of some of the first messages.

6. The system of claim 5, further comprising:

an assigner incorporated with said server group, said server assigning priority to the information in said first messages;

and said forwarder forwards the information contained in the first messages in preferential order by the assigned priority.

7. The system of claim 5, further comprising:

a translator incorporated with said server group, said translator translating the first received messages to a second protocol.

8. The system of claim 5, wherein said server network hardware provides encrypted communication between said server group and the central information system.

9. A reporting and maintenance system, comprising:

a server group including at least one server;

at least one non-volatile memory device incorporated to said server group;

server network hardware connected to said server group, said server network hardware being configurable to provide electronic communication between said server group and a superintendent system, said server network hardware being further configurable to provide electronic communication between said server group and at least one enterprise device;

computer readable instructions installed to said memory devices, said instructions providing the functions of:

(i) receiving first messages from enterprise devices in at least one enterprise management protocol;

(ii) filtering the first messages, the filtering preventing the forwarding of some of the first messages.

(iii) translating the first received messages to a second protocol.

(iv) forwarding the information contained in the first messages to a superintendent system;

(v) receiving second messages from a superintendent system, said second messages referencing at least one enterprise device;

(vi) forwarding the information in the second messages to the referenced enterprise devices;

(vii) receiving third messages from the referenced enterprise devices responding to the forwarding of the information in the second messages;

and (viii) forwarding the information in the third messages to a superintendent system.

10. A reporting and maintenance system for remotely monitoring or controlling devices in an enterprise, comprising:

a server group including at least two servers, said servers providing redundancy of operation;

at least one non-volatile memory device incorporated to said server group;

server network hardware connected to said server group, said server network hardware including a gateway, said server network hardware being configurable to provide encrypted electronic communication between said server group and a superintendent system through said gateway, said server network hardware being further configurable to provide electronic communication between said server group and at least one enterprise device in communicative proximity;

first computer readable instructions installed to said memory devices, said first instructions providing the function of receiving first messages from enterprise devices in at least one enterprise management protocol including version 1 of SNMP;

second computer readable instructions installed to said memory devices, said second instructions providing the function of forwarding the information contained in the first messages to a superintendent system by a notification channel in preferential order by an assigned priority;

third computer readable instructions installed to said memory devices, said third instructions providing the function of filtering the first messages, the filtering preventing the forwarding of some of the first messages,

said filtering prescribed by policy.

fourth computer readable instructions installed to said memory devices, said fourth instructions providing the function of assigning priority to the information in said first messages;

fifth computer readable instructions installed to said memory devices, said instructions providing the function of translating the first received messages to a second protocol;

a cabinet housing said server group;

a first network enabled temperature sensor, said first temperature sensor positioned to monitor the temperature of the air at the interior of said cabinet;

a second network enabled temperature sensor, said second temperature sensor positioned to monitor the temperature of the air outside said cabinet;

at least one door included in said cabinet whereby access to said server group is restricted when said doors are in closed position;

locks included in said doors whereby said doors may be secured in a closed position, said locks enabled to unlock through an electronic command message from a superintendent system;

a data entry device connected to said locks, said data entry device being mounted to said cabinet, said data entry device providing a human interface external to the cabinet enclosure; said locks enabled to be unlocked through said data entry device;

a network enabled camera whereby a space in proximity to said server group may be monitored;

an alarm in proximity to said server group;

a network enabled power controller connected to and being configurable to control the power of at least one server of said server group, said power controller being configurable to accept network commands from a superintendent system;

sixth computer readable instructions installed to said memory devices, said instructions providing the function of receiving second messages from a superintendent system through a notification channel, said second messages referencing at least one enterprise device;

seventh computer readable instructions installed to said memory devices, said instructions providing

the function of translating the second received messages to an enterprise management protocol utilized by the referenced enterprise devices.

eighth computer readable instructions installed to said memory devices, said instructions providing the function of forwarding the information in the second messages to the referenced enterprise devices in at least one enterprise management protocol including version 1 of the simple network management protocol;

enterprise devices in electronic communication with said server group through said server network hardware.

a superintendent system in electronic communication with said server group through said server network hardware.

ninth computer readable instructions installed to said memory devices, said ninth instructions providing the function of accepting network parameters that define the boundaries of an enterprise, said ninth instructions also providing the function of discovering enterprise devices through said server network hardware using the network parameters;

and tenth computer readable instructions installed to said memory devices, said tenth instructions providing the function of receiving a software upgrade from a superintendent system, said tenth instructions also providing the function of delivering the software upgrade to enterprise devices.

11. A transferential system for remotely monitoring or controlling devices in an enterprise, comprising:

a server group including at least two servers, said servers providing redundancy of operation;

at least one non-volatile memory device incorporated to said server group;

enterprise devices in electronic communication with said server group through said server network hardware.

a central information system in electronic communication with said server group through said server network hardware.

server network hardware connected to said server group, said server network hardware including a gateway, said server network hardware providing encrypted electronic communication between said server

group and said central information system through said gateway, said server network hardware further providing electronic communication between said server group and said enterprise devices;

at least one notification device connected to and controllable by said central information system whereby an administrator may be notified of enterprise status;

at least one display device connected to said central information system providing display facilities to administrators;

first computer readable instructions installed to said memory devices, said first instructions providing the function of receiving first messages from enterprise devices in at least one enterprise management protocol including version 1 of SNMP;

second computer readable instructions installed to said memory devices, said second instructions providing the function of forwarding the information contained in the first messages to a central information system by a notification channel in preferential order by an assigned priority;

third computer readable instructions installed to said memory devices, said third instructions providing the function of filtering the first messages, the filtering preventing the forwarding of some of the first messages, said filtering prescribed by policy;

fourth computer readable instructions installed to said memory devices, said fourth instructions providing the function of assigning priority to the information in said first messages;

fifth computer readable instructions installed to said memory devices, said instructions providing the function of translating the first received messages to a second protocol;

a cabinet housing said server group;

a first network enabled temperature sensor, said first temperature sensor positioned to monitor the temperature of the air at the interior of said cabinet;

a second network enabled temperature sensor, said second temperature sensor positioned to monitor the temperature of the air outside said cabinet;

at least one door included in said cabinet whereby access to said server group is restricted when said doors are in closed position;

locks included in said doors whereby said doors may be secured in a closed position, said locks enabled to unlock through an electronic command message from a central information system;

a data entry device connected to said locks, said data entry device being mounted to said cabinet, said data entry device providing a human interface external to the cabinet enclosure; said locks enabled to be unlocked through said data entry device;

a network enabled camera whereby a space in proximity to said server group may be monitored;

a network enabled power controller connected to and being configurable to control the power of at least one server of said server group, said power controller being configurable to accept network commands from a central information system;

sixth computer readable instructions installed to said memory devices, said instructions providing the function of receiving second messages from a central information system through a notification channel, said second messages referencing at least one enterprise device;

seventh computer readable instructions installed to said memory devices, said instructions providing the function of translating the second received messages to an enterprise management protocol utilized by the referenced enterprise devices;

eighth computer readable instructions installed to said memory devices, said instructions providing the function of forwarding the information in the second messages to the referenced enterprise devices in at least one enterprise management protocol including version 1 of the simple network management protocol;

ninth computer readable instructions installed to said memory devices, said ninth instructions providing the function of accepting network parameters that define the boundaries of an enterprise, said ninth instructions also providing the function of discovering enterprise devices through said server network hardware using the network parameters;

and tenth computer readable instructions installed to said memory devices, said tenth instructions providing the function of receiving a software upgrade from a central information system, said tenth instructions also providing the function of delivering the software upgrade to enterprise devices.

12. The system of claim 11, further comprising:

an information repository collector receiving the information contained in the first messages;
and an information repository storing information received by said information repository.

13. The system of claim 11, further comprising:

a MIB mapper tool supplying SNMP mappings for said seventh computer readable instructions
whereby an enterprise device identifier of the notification channel protocol may be converted to an SNMP OID.

14. The system of claim 13, further comprising:

an integration tool connected to said MIB mapper tool, said integration tool receiving parameters from
an administrator, said integration tool creating MIB entries to the MIB mapper tool.

15. The system of claim 14, further comprising:

a policy repository connected to said integration tool, said policy repository supplying typified policy for
newly entered enterprise devices by said integration tool.

16. The system of claim 11, further comprising:

a trap manager connected to said central information system, said trap manager generating enterprise
device status requests for unrecoverable trap events.

17. A transferential system for remotely monitoring or controlling devices in an enterprise, comprising:

a server group including at least two servers, said servers providing redundancy of operation;
at least one non-volatile memory device incorporated to said server group;
enterprise devices in electronic communication with said server group through said server network
hardware.
a central information system in electronic communication with said server group through said server

network hardware.

server network hardware connected to said server group, said server network hardware including a gateway, said server network hardware providing encrypted electronic communication between said server group and said central information system through said gateway, said server network hardware further providing electronic communication between said server group and said enterprise devices;

at least one notification device connected to and controllable by said central information system whereby an administrator may be notified of enterprise status;

at least one display device connected to said central information system providing display facilities to administrators;

first computer readable instructions installed to said memory devices, said first instructions providing the function of receiving first messages from enterprise devices in at least one enterprise management protocol including version 1 of SNMP, said first computer readable instructions providing a message gateway;

second computer readable instructions installed to said memory devices, said second instructions providing the function of forwarding the information contained in the first messages to a central information system by a notification channel in preferential order by an assigned priority;

third computer readable instructions installed to said memory devices, said third instructions providing the function of filtering the first messages, the filtering preventing the forwarding of some of the first messages, said filtering prescribed by policy;

fourth computer readable instructions installed to said memory devices, said fourth instructions providing the function of assigning priority to the information in said first messages;

fifth computer readable instructions installed to said memory devices, said instructions providing the function of translating the first received messages to a second protocol, said first, second, third, fourth, and fifth computer readable instructions providing an event translator;

a cabinet housing said server group;

a first network enabled temperature sensor, said first temperature sensor positioned to monitor the temperature of the air at the interior of said cabinet;

a second network enabled temperature sensor, said second temperature sensor positioned to monitor the temperature of the air outside said cabinet;

at least one door included in said cabinet whereby access to said server group is restricted when said doors are in closed position;

locks included in said doors whereby said doors may be secured in a closed position, said locks enabled to unlock through an electronic command message from a central information system;

a data entry device connected to said locks, said data entry device being mounted to said cabinet, said data entry device providing a human interface external to the cabinet enclosure; said locks enabled to be unlocked through said data entry device;

an alarm in proximity to said server group;

a network enabled power controller connected to and being configurable to control the power of at least one server of said server group, said power controller being configurable to accept network commands from a central information system;

sixth computer readable instructions installed to said memory devices, said instructions providing the function of receiving second messages from a central information system through a notification channel, said second messages referencing at least one enterprise device;

seventh computer readable instructions installed to said memory devices, said instructions providing the function of translating the second received messages to an enterprise management protocol utilized by the referenced enterprise devices;

eighth computer readable instructions installed to said memory devices, said instructions providing the function of forwarding the information in the second messages to the referenced enterprise devices in at least one enterprise management protocol including version 1 of the simple network management protocol, said sixth, seventh, and eighth computer readable instructions providing an SNMP translator;

ninth computer readable instructions installed to said memory devices, said ninth instructions providing the function of accepting network parameters that define the boundaries of an enterprise, said ninth instructions also providing the function of discovering enterprise devices through said server network

hardware using the network parameters;

and tenth computer readable instructions installed to said memory devices, said tenth instructions providing the function of receiving a software upgrade from a central information system, said tenth instructions also providing the function of delivering the software upgrade to enterprise devices.

18. The system of claim 17, further comprising:

a MIB mapper tool supplying SNMP mappings for said seventh computer readable instructions whereby an enterprise device identifier of the notification channel protocol may be converted to an SNMP OID.

19. The system of claim 18, further comprising:

an integration tool connected to said MIB mapper tool, said integration tool receiving parameters from an administrator, said integration tool creating MIB entries to the MIB mapper tool.

20. The system of claim 19, further comprising:

a policy repository connected to said integration tool, said policy repository supplying typified policy for newly entered enterprise devices by said integration tool.

21. The system of claim 17, further comprising:

a trap manager connected to said central information system, said trap manager generating enterprise device status requests for unrecoverable trap events.